The Kuiper Belt as a Debris Disk

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The Kuiper belt, and more generally, the solar system debris disk, was likely 10–30 times more massive in the early solar system 4–5 Gyr ago than it is at present. Several dynamical subpopulations have been identified within the remnant Kuiper Belt that we observe today. Current theoretical models interpret this dynamical structure in terms of a large-scale orbital migration of the giant planets facilitated by a massive debris disk during the late stages of planet formation; stellar encounters and rogue planets are also under consideration to explain some of the puzzles presented by the Kuiper Belt. This talk will provide an overview of our current understanding of the 4.5 Gyr history of the solar system debris disk, including the evolution of its dusty component.